DOCUMENT RESUME

ED 119 415 EC 081 489

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TITLE The Evaluation of Special Education Programs: Past Attempts and Present Directions. No. 134.
INSTITUTION Toronto Board of Education (Ontario). Research Dept.
PUB DATE Nov 75
NOTE 31p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage
DESCRIPTORS Delivery Systems; *Educational Trends; Exceptional Child Research; *Followup Studies; *Handicapped Children; Labeling (of Persons); Literature Reviews; Models; Peer Acceptance; Prevention; *Program Evaluation; *Regular Class Placement; Self Concept; Socioeconomic Influences; Special Classes; Student Attitudes
IDENTIFIERS Canada

ABSTRACT

Reviewed is the literature on issues relating to the evaluation of special education programs with special emphasis on the comparison of regular versus special class placement and Canadian programs. Results of studies dealing with effects of mainstreaming or special class services are reviewed in terms of social acceptance by peers, self concept, and attitude toward school. Four models to improve delivery of services to handciapped children are compared. Also reviewed are effects of socioeconomic influences on school achievement and adjustment and followup studies on the effects of special education. Identified and discussed are new directions such as more process oriented (rather than outcome oriented) evaluation approaches, a decrease in the categorization of children using medical and psychological terms, attempts to match students to teaching systems, and prevention of later disability through early identification and intervention. (DB)

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ISSN 0316-8786

ED119415

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THE EVALUATION OF SPECIAL EDUCATION PROGRAMS: PAST ATTEMPTS & PRESENT DIRECTIONS

Janis Gershman

134

EC081485

November, 1975.

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INTRODUCTION

Since the early 1900's when the first special classes were established in Canada, self-contained special classroom environments have been the most popular means for educating exceptional children. The number of special classes increased by leaps and bounds in the 1950's and 1960's, and added on to the "slow-learner" classes were more specialized programs for children with emotional, perceptual or reading problems.

However, during the past decade increasing discontent with self-contained classes has emerged among special educators, and a variety of alternative delivery systems have been developed and implemented. These alternative delivery systems are characterized by the retention of the child in the regular classroom with supplemental support provided by itinerant teachers, withdrawal classes, resource rooms, learning centres, or reading clinics. These systems are generally known as "integration", "normalization", or "mainstreaming" systems.

Much of the research in the past ten years has concentrated on comparing these alternative systems with the self-contained classrooms. Unfortunately results have been inconclusive and experiments have been laden with flaws and confounding variables. Other research in the area of special education evaluation has tended to take the form of program descriptions, philosophical discussions and counter-discussions, case studies, and limited follow-up. In general, past research attempts have been unsuccessful in producing genuine evaluative information.

In spite of these ambiguities in the theory, special education continues to thrive in terms of the number of children it serves. In the Toronto system the percentage of public school students serviced by special education

increased from 3.9% in 1960 to 7.2% in 1974. As the total school enrolment is going down, special education enrolment is increasing. As a result, financial problems arise and the need to consider more cost-effective special education programs becomes crucial.

The growing percentage of children in need of special education services is a serious problem. Many of the students comprise what is commonly known as the "grey area"; that is, those children who cannot cope in a regular classroom but whose problems do not seem to be serious enough to warrant placement in special classes. Moreover, the majority of these "grey area" students come from lower socio-economic groups. The question then arises: Does one provide additional or alternative special programs to help the child cope in a regular class as it now stands, or does one change the regular class to cope with the child?

In the past, teachers have simply not been trained to deal with this wide range of individual differences and have demanded supportive and alternative services. Obviously the demands should not be ignored and in the past have not been. Moreover, not only have teachers not usually been trained to deal with this large array of individual differences but often they are not trained to properly identify children with potential learning or behaviour problems.

In a study in Illinois of classes of varying sizes it was found that no matter what the class size, teachers tended to refer the same number of children. Selecting the three to six "worst" children in each class seemed to be the arbitrary method of identifying potentially disturbed children (Salvia et al., 1974). This referring of "the bottom of the list" could also account for some of the growing percentage of children referred for special education.

The focus of this paper is on major issues involved in evaluating special education programs. In general, the report is concerned with special education which

deals with the child whose problems can be seen as relatively mild; those children traditionally labelled as educable mentally retarded, emotionally disturbed, educationally handicapped, behaviourally disordered, learning disabled or perceptually handicapped. The one common characteristic among all these children is that they get referred from regular education because of some behavioural or learning problem perceived usually by the teacher. The ideas presented in this report also apply to children with physical and sensory problems, though the application is not as direct as with the groups mentioned earlier.

SELF-CONTAINED CLASSES VS. ALTERNATIVE SYSTEMS

Since the initiation of special classes in the early 1900's some individuals have doubted the appropriateness of special class placement for educating many "special" children. However, the real significance of these criticisms came to public attention in an article by Dunn (1968) in which he pointed out the guilt of many special educators in imposing self-contained special classes on mildly retarded children, especially minority children of low socio-economic background. This article prompted an onset of studies and debates on the efficacy of special class placement as well as the development of a series of alternative models for the delivery of special education.

In Canada the move away from self-contained classes was highlighted by the report by The Commission on Emotional and Learning Disabilities in Children (CELDIC, 1970) called "One Million Children" which advocated that children with emotional and learning disorders be retained in the regular classroom. Although many special educators had already changed their views on Special Education, this report triggered specific action towards more integration in special education. The Vancouver School Board for example, approved a recommendation to establish a learning assistance centre in each elementary school to eventually replace special classes. By 1974, 69 centres had been established and only six schools were without them. A report on the present status of these learning assistance centres indicated positive reactions to the centres by pupils, parents, teachers, and officials (Thorstenson, 1974).

Not all special educators have opted for more integrated systems. The research comparing self-contained classrooms with alternative methods of special education delivery is still inconclusive and the debate still goes on.

Some of the arguments for the retention of special classes are as follows:

1. Pupils who meet academic failure and social rejection in regular classes usually find greater success and acceptance in a special class.
2. The effectiveness of alternative plans needs to be demonstrated before they are adopted.
3. Special class teachers are trained to deal with the exceptional child's difficulty more appropriately than are the regular class teachers.
4. Smaller class sizes allow for more individualization.

Those who favour reducing the commitment to special classes argue as follows:

1. Follow-up studies of graduates from special classes indicate that these people are leading only a marginal existence.
2. Although the research is inconclusive, studies on the self-fulfilling prophesy phenomenon of disability labels cannot be ignored.
3. Special classes cost at least twice as much to operate and their worth has not yet been illustrated.
4. The sheltered environment of the special class does not prepare the child for the future.
5. It is better for the special child to be in the regular class to "model" more appropriate behaviour.

There are at least ten years of studies designed to investigate the arguments mentioned above. Although many of them yield contradictory or inconclusive results, because they comprise such a great portion of research in special education they are worth reviewing. Most of the studies were designed to look at the effects of special class placement as compared to the effect of an integrated placement on a child's academic achievement, self concept, attitude to school, and acceptance by his peers.

Carrol (1967) investigated the effects of partial integration into regular classrooms of slow learning students. Pupils who attended special class half day and regular class half day were matched on IQ, age, and achievement with a group of pupils who attended special class the entire day. The results indicated a significant decrease in self-derogatory statements as

measured by The Illinois Index of Self-Derogation by the experimental group. The experimental group also made greater gains in reading.

Studies dealing more directly with the differential effects of varying administrative arrangements of services for special students have been conducted by various investigators. The majority of results indicate that with modifications in the regular program special students could academically achieve as well as or better than matched students in self contained special classes (Hammill & Wiederholt, 1972; Walker, 1974; Rodee, 1970; Bradfield et al., 1973; Goldstein et al., 1965).

Many studies have also attempted to investigate the effects of segregated classes on the social and emotional adjustment of special students. Special educators have often stressed the importance of non-academic effects and have cited studies showing that later success of mildly retarded students related much more closely to social adjustment in school than to academic achievement (Young, 1958).

Social Acceptance by Peers

The degree of social adjustment in terms of social acceptance by classmates of integrated elementary special students has been found to vary as follows:

1) no difficulty in acceptance (Bruininks et al., 1974 and Hayball & Dilling, 1969);
2) mildly accepting (Miller, 1956);
3) lower social position and seeming unawareness of it (Howe & Snider, 1969);
4) low acceptance and some rejection (Lapp, 1957);
5) no better acceptance when provided with resource room support (Iano et al., 1974);
6) more rejection than students in segregated classes (Gottlieb & Budoff, 1972);
7) both integrated and segregated students being rejected significantly more often than regular students (Goodman et al., 1971).

In a study of peer popularity of learning disabled children it was found that these children, especially if white and female were significantly less attractive and more rejected than comparison children (Bryan, 1974a, 1974b). The degree of acceptance was also found to vary according to the sex and age of the rater. Females rated more positively (Sheare, 1974) and males expressed more overt rejection and rejected integrated special students significantly more often than segregated ones. Students of the primary grades also tended to be more accepting than older students (Goodman et al., 1971).

The length of time a special student is integrated in a regular class does not apparently influence his acceptance (Monroe & Howe, 1971). Although many of the results appear to be conflicting, in essence what they say is that social acceptance will not just "happen" because of mainstreaming.

Self Concept

The results of self concept studies present several aspects to consider. The following has been found:

1) Physical setting, whether integrated or segregated was not a significant variable in the development of the self concept of adolescents (Carvajal, 1972). The most significant predictors of self concept were IQ, socio-economic conditions and parents' education.

2) Special class students did not perceive their self concept to be significantly related to their academic success. In contrast, their perceptions of self at school and at home bore a positive relationship to teacher ratings of their academic ability (Richmond & Dalton, 1973).

3) There were no significant differences between gains in self concept made by resource room and special class students over a two year period (Walker, 1974).

4) While the findings are mixed, it appears that students in self-contained classes tend to become overconfident and unrealistic about their abilities as their self concept improves (Meyerowitz, 1962:1967 and Schurr & Brookover, 1967).

As in the case of social acceptance, the results of studies examining the effects of various educational settings on self concept are inconclusive and generalized statements favouring any of the alternative delivery systems cannot be made.

Attitude Toward School

The results of the few studies investigating effects of integration on attitude toward school imply that mainstreaming systems might have better attitude-building potential. In a study of integrated students receiving a precision teaching program in the regular classroom, a more favourable attitude toward school was found as compared to a control group in a special class (Bradfield et al., 1973). Gottlieb and Budoff (1972) also found that upon reintegration into regular grades after a special class, students reported more favourable school attitudes than they did in segregated classrooms.

The effort on the part of special educators to elicit the feelings of children for whom special education programs are designed has been minimal. However, one study did attempt to get at these feelings by asking students how they liked the special class (Warner et al., 1973). Contrary to the latter studies mentioned, these students revealed a very favourable attitude to their special class placement. Younger students were more satisfied than older ones but all students seemed to feel comfortable in the class. The investigator also felt that they had very realistic attitudes toward their academic problems.

The most that one can conclude from the numerous studies investigating the effects of alternative special systems is that the academic and socio-emotional needs of some special children can be met as well in mainstreaming programs as in the self-contained special classrooms. If one examines the data from these studies one sees that even though means between two groups

of subjects are similar, in each group there are individual children who are profitting from that specific educational setting. The problem now is to determine which type of student does best in which type of program.

Another problem in making conclusions based on these efficacy studies is that the majority of them reflect many weaknesses in design and implementation: sample sizes were small; attrition rates were high; controls sometimes inadequate; measuring instruments were insensitive or inappropriate for the particular population; groups of subjects were sometimes too heterogeneous; teacher and curriculum variables were rarely systematically controlled. Moreover, much of the research reviewed was conducted in a natural setting and subjects are therefore exposed to several "treatments" simultaneously (e.g., being labelled, placed in a special class, smaller class size, etc.). As a result there is often confounding of such independent variables as educational setting, label or lack of label, curriculum, and teacher/pupil ratio.

It also becomes increasingly more difficult to do comparative studies as the number of alternative delivery systems increase. Since special educators place children in programs they feel are best for the child, researchers should be reluctant to move children into other programs for comparative research purposes. As a result, we can at best compare only "adjacent" programs within the continuum of special programs as shown in Figure 1 (page 11) for example.

The ambiguity and inconclusiveness of the results of past studies has in itself led special educators to a more "balanced" outlook on special education delivery systems. Obviously neither wholesale removal from special classes or wholesale inclusion in special classes is a solution to the problem of helping children with special needs. Educators are now realizing that an array of options is needed to optimally accomodate all special children. However, these various mainstreaming systems of resource rooms, learning centres, itinerant teachers etc. still have need for research investigations.

Areas yet to be fully investigated are the effects on regular students of reintegrating special students into the regular classroom, the training of teachers to deal effectively with a wider variety of children in the regular class, and a close examination of the "processes" involved in each type of special education delivery system.

MODELS OF SERVICE

The forceful critique of self-contained special classes that occurred in the late '60's resulted in a number of proposals for alternative delivery systems. Many of these systems recognise the individuality of exceptional children by providing a wide variety of service options.

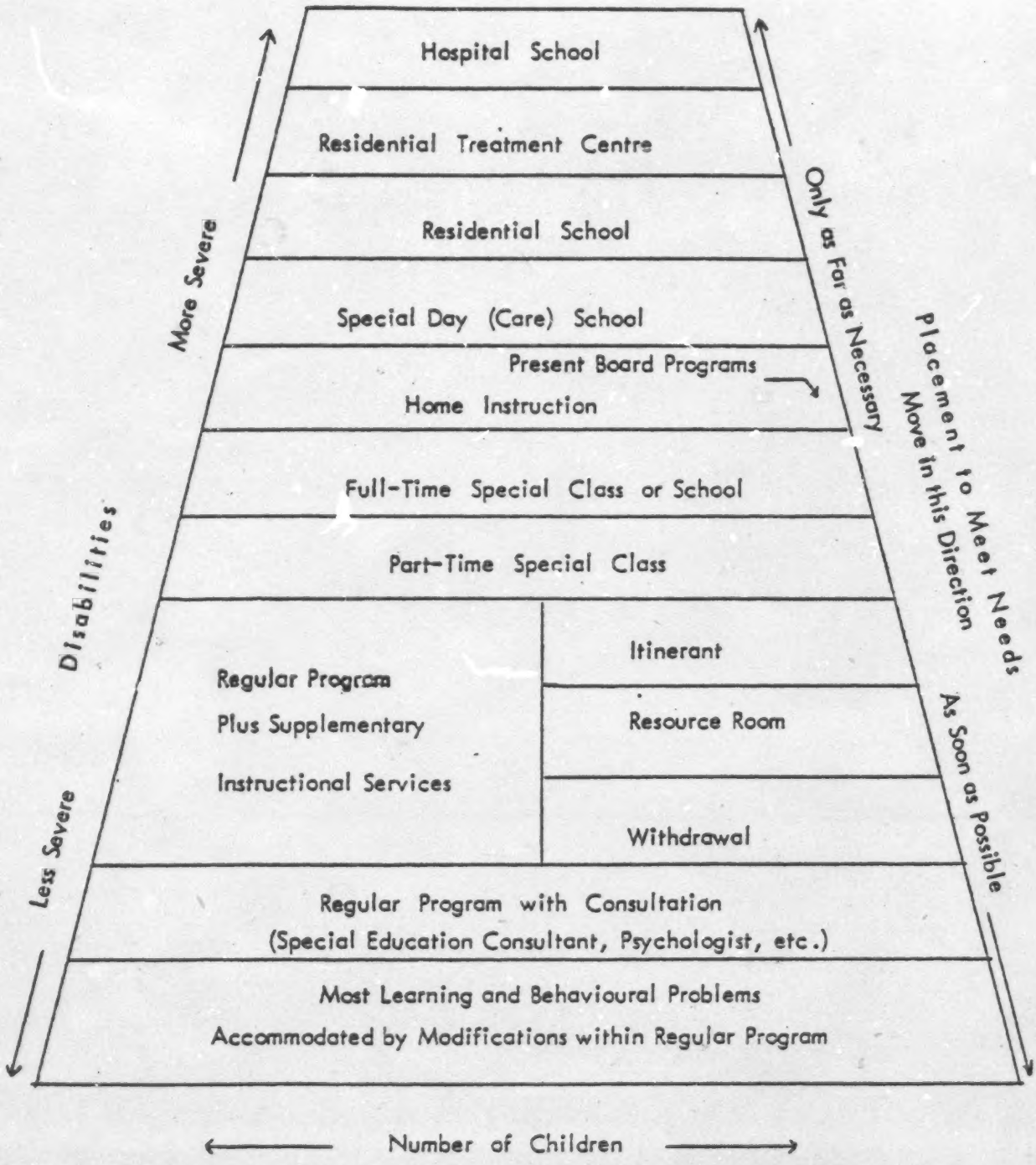
Evelyn Deno (1970) who has proposed a system called the "Cascade of Services" which projects an array of placement options, shows these options extending from the most integrated to the most segregated, and points out that the largest number of pupils should be served in the most integrated programs and that smallest number in the most segregated plans. The Toronto Board of Education operates on a variation of this system as illustrated in Figure 1.

Another model (Lilly, 1970) changes special education from being a child centred to teacher centred program aimed at upgrading the skills of the teacher. It incorporates the "zero reject model" which would make it administratively impossible to separate a child from a regular education program. The model's goal is to make teachers self sufficient and able to handle problems rather than refer them.

The Special Education Contract model proposed by Gallagher (1972) involves the adoption of a signed formal contract between parents and school officials prior to any type of special education services for the child. The contract would outline specific goals to be attained and would cover a time period of no longer than two years, at which time it would be renewable.

Still another proposal is the fail-save model (Adamson & VanEtten, 1972). Procedurally, this model begins with a referral from the regular classroom teacher followed by a ten week observation and evaluation of the child by a consultant. Formal and informal testing goes on at this time and at the end of the ten week period a decision is reached by the consultant, parents,

FIGURE 1 A CONTINUUM OF SPECIAL PROGRAMS*



* From the report to the Board of Education regarding Special Education, February 1971.

teacher, and school officials as to whether this child should be referred to a resource room plan or carry on with a further ten week session of observation and testing. At the end of ninety days in the resource room a further evaluation is made and at this time a special class/resource room placement is an option. This placement is made for a maximum of nine months only, at which time further evaluation occurs. The authors base this model on experience and data gathered from implementing educational diagnosis, itinerant consultants, resource rooms, and a teacher-based training model.

The four models described above are particular approaches for improving delivery systems for special children. Although they are mainly theoretical in nature they have been implemented with some variation in a variety of applied settings. Evaluative research on the appropriateness of these models has yet to be carried out.

SOCIO-ECONOMIC INFLUENCES

A long-standing problem going hand in hand with the fight to abolish self-contained classes is the over-representation in special classes of children from poorer socio-economic backgrounds. Protests that the education system discriminates against the poor by placing children in dead end programs are not uncommon (Lind, 1974) and are partially substantiated by research findings.

In a study involved to identify factors associated with placement in classes for the educable mentally retarded, comparisons were made between a group of low IQ regular class subjects and three groups of special class students with IQ's varying from 50 to 105. No differences were found between regular and special class subjects on preschool readiness, language development or achievement prior to placement. The one factor that significantly differentiated between low IQ regular and special class pupils of both average and low IQ was socio-economic status, with the special class subjects obtaining lower socio-economic index scores (Rubin, Krus, & Balow, 1973).

The Every Student Survey (Wright, 1970) revealed that in the Toronto system children of the lowest occupational group were twenty times more likely to be in a slow learner class than children of the highest occupation category. Moreover, in a follow-up study five years later it was found that proportionately more of these children of lower socio-economic groups were still in special classes than were children of the higher occupation categories (Gershman & Wright, 1975).

In another follow-up study of children who had been integrated into regular grades after being in special classes it was found that the higher the socio-economic level the better the children seemed to behave and adjust, regardless of their ethnic background or grade level (Wilson, 1974).

Besides research that proves the existence of socio-economic influence in special education placement, much research now centres on ways to prevent

this phenomenon of the "disadvantaged child" in special education. Culturally unbiased diagnostic tests, "preventive" or "compensatory" preschools and parent education programs are just a few examples of programs designed to prevent these children from being shafted into special education classes. These programs will be discussed further in the last chapter of the report.

FOLLOW-UP STUDIES

Follow-up studies to determine the long-term effects of special education have been few in number. Moreover, those studies which have been done have not followed up students beyond one or two years.

One exception is a five year longitudinal study of learning disabled children done by Koppitz (1971). This study traced the progress of 177 students aged six to twelve for five years, beginning with entry into self-contained classes. Variables considered were the child's age, sex, IQ, behaviour, and social background. In various combinations these variables seemed to influence the length of time and success in the learning disabilities program. The typically "successful" student who returned to regular classes within a five year period after coming to special classes was of normal intelligence, was usually between the ages of eight and ten, had no serious deficits in language development and memory, was a non-acting-out child and came from a reasonably stable and supporting home. This group of "successful" students comprised only about 24% of the total sample. Of the remaining 76%, 40% were still in the special classes and the other 36% had either moved away or were withdrawn for other reasons. Follow-up of the successful students revealed that only half of them were making a good adjustment to regular classes.

Other follow-up studies that look at long-term effects of special programs also tend to reveal discouraging results. Vacc (1972) did a study to investigate long term changes in achievement, behaviour and social position of children identified as emotionally disturbed. Changes were measured for two matched groups of emotionally disturbed children: those who had experienced special class placement and those who remained in regular classes. After one year of the program, results indicated greater gains on all areas tested by those children in the special classes. However, four years later, after the

special class students had returned to regular classes for at least two years, the two groups of children were retested and there were no differences in gains made in any area between the two groups. The author concluded that special classes did not result in long term changes for emotionally disturbed children as compared to emotionally disturbed children placed in regular classes, and that if special classes had any advantages it existed only as long as the child remained in the special program.

Similar types of results were found in an investigation of resource rooms (Glavin, 1974). The initial findings showed that when the students were in the resource room, both social behaviour and academic gains in reading and arithmetic were significantly improved for the experimental subjects. However, upon follow-up after a two and three year interval of full-time placement in regular classrooms, results indicated that these initial gains were not sustained.

On a more positive note, the Scarborough Board of Education found that special students who returned to regular grades were coping well with reintegration (Hayball & Dilling, 1969). Although these students from Opportunity, Perceptual, Behavioural and Reading classes were achieving at slightly less that grade level, their personal and social adjustment, attitude to school and self concept were extremely favourable.

Grosenick (1969) also found that by measurement of observable performance and behaviours of students in special classes and then regular classes she was able to conclude that the students had integrated successfully into the regular class.

The latter two studies, however, differ from the previous ones because they consider only immediate follow-up. Follow-up interval then, seems to be a crucial variable when examining lasting effects of special education.

Unfortunately there are many gaps in the research in the field of

follow-up studies. Variables which have shown themselves as influential in other areas of special education research have just not been examined. Examples of such variables are type of program, length of time in the program, age on entry to the program, IQ, and socio-economic background. How do these variables affect the long-term success of special programs? Answers to this question are crucial to a comprehensive evaluation of special education.

NEW DIRECTIONS

It becomes increasingly obvious that no one individual delivery system will be appropriate for every student in need of special help. As a result, the number of efficacy studies comparing delivery systems has decreased in recent years and special educators are looking for new ways to evaluate a wide variety of service options in a mainstreaming system. Trends towards a more "process" oriented approach instead of an "outcome" oriented evaluation are apparent. Instead of comparing program outcomes, process evaluation stresses the effects of variables within a program on its outcomes. Such an evaluation technique requires that each component of a program be clearly delineated and be comprised of operationally defined constructs that are both meaningful and measurable. Kaufmann et al. (1975) state that the extensive variability possible within the framework of a mainstreaming program requires research paradigms which permit results to be attributed to the effects of specific "within-treatment" variations.

Another new trend sees the replacement of categorizing exceptional children in terms of medical, psychological, and social criteria by more significant systems for special education. The field of special education has been especially vulnerable to attack because in defining itself it has tended not only to list various categories but to use negatively loaded terminology to do so: the mentally "retarded", the visually "handicapped", the hearing "impaired", the emotionally "disturbed", and the socially "maladjusted". A number of problems may be created by categorizing children and programs (MacMillan et al., 1974).

1) There is a tendency to stereotype characteristics of the group to individuals.
2) The category labels tend to become stigmatic and to be attached indelibly to the individuals.

3) These negative labels tend to be associated with negative expectations.

Some educators are responding to this pressure against labeling by redesigning their instructional sequences to deal more effectively with exceptional children on a non-categorical basis, under the justification that most of the techniques demonstrated are applicable to all handicapped conditions. Reynolds and Balow (1972) state that the learning requirements of special students, not their etiology or medical classification, should determine the organization and administration of special education services. They have suggested that when terminology is used to describe programs and teachers rather than children, communication and programming are thereby improved.

Along the same line of thought is research to investigate ways of effectively matching students to teaching systems. Reynolds and Balow (1972) stress the importance of studying children in terms of variables that aid in making allocation or placement decisions within a highly differentiated school system. These variables, they say, should be ones that produce interaction effects with alternative treatment systems rather than simple descriptions or surface aspects of handicaps. Current research in the field of matching models in education might provide some headway into this problem of providing truly individualized systems for special students (Hunt, 1971).

As well as putting energy into developing effective ways of providing for individual differences of special students, researchers and educators are also stressing the importance of early identification of special children and are investigating ways to prevent the development of potential problems.

The whole area of prevention requires a combined multi-desciplinary, multi-organizational endeavour. In its earliest stages, prevention of potential problems in children begins with pre-natal nutrition, good care for infants

after birth and early detection of any defects in the child.

The area of prevention that has perhaps received the most attention in the past decade is the preschool program for disadvantaged or "high risk" children. Massive programs such as "Head Start" are an indication of the importance that educators have placed on early experience. Various types of "compensatory" or "intervention" programs have been implemented with their emphases varying anywhere from parent education to language training. With varying degrees of confidence, research evidence suggests that early intervention has a definite short-term effect upon children. Sizeable initial gains in intellectual abilities have been recorded and there is some evidence showing generalized effects of early intervention to later school achievement. Where such results are observed, parental involvement is usually part of the intervention program. However, long-term effects of most early intervention programs have yet to be adequately examined and it is still too early to study the effects of new intervention programs of a longitudinal nature.

In spite of the lack of substantial data proving the long term effects of preschool intervention, educators are convinced that early identification of learning problems is a step towards helping children before their problems become too severe and before they experience educational failure. The U.S. Department of Health, Education and Welfare has announced that it wants to "screen 13 million poor U.S. children for mental defects and other disabilities that might interfere with their development. The screening, and referrals for treatment if necessary, would be made a part of other routines, such as immunization"(Toronto Star, September 10, 1975).

The problem of screening children and diagnosing learning or emotional problems leads into another area of concern for special educators and researchers. The need to develop suitable assessment procedures that are culture-free and unbiased and at the same time are effective indicators

of potential problems in young children has presented a difficult problem. Problems in developing these unbiased assessment measures arise however, when children are diagnosed as having no special problems and then still cannot cope in the school system because the system itself is not as unbiased as the assessment devices. Many special educators have responded by minimizing traditional assessment procedures in favour of diagnostic/prescriptive teaching methods (Dunn, 1973 and Christoplos, 1973). In this type of system, diagnosis is no longer seen as simply a labeling and placement process. Instead, it determines the levels at which a child is functioning and interventions are tried until an effective one is found. It is important in this procedure that continuous evaluation be carried out to assure that the best match has been found. It has also been proposed that diagnostic systems should eliminate gross categories completely and instead specify education or treatment requirements for individual children (Trotter, 1975).

Another approach to assessment focuses on the person-environment interaction as determining intellectual potential. Feuerstein (1970), an innovator of this approach describes it as a "dynamic testing" model involving testing in the act of learning. He feels that conventional psychometric devices are not totally sensitive to the full intellectual capacities of the disadvantages child and tend to measure what has already been learned instead of capacity for learning.

The trends in evaluation of special education are affected by all of the issues mentioned in this chapter. For example, along with early identification procedures goes the need for comprehensive follow-up studies. The trend towards individualization of services must be accompanied by effective evaluation of the match between individual student and individual delivery model. The wide variety of treatment or delivery models also implies a more

"process" oriented evaluation of each model instead of a comparative evaluation among models. Since special educators have generally reached the conclusion that a wide array of delivery systems is needed to successfully accomodate all special children, evaluation of systems should not have as its goal to say that system "x" is better than system "y"; but rather that system "x" can be improved by ... and specific components of system "x" have the following effects ... . However, for political, fininacial, and social reasons it often becomes necessary to do "between" comparisons. Past research concerned with the evaluation of special education delivery models has shown, however, that it is often impossible to make valid generalized conclusions based on these comparative efficacy studies.

The practical problems of evaluation research in special education are numerous and contribute to the relative scarcity of long-term genuine attempts at evaluating special education systems. This type of research, usually field research, is costly not only in terms of money, but also in terms of time and staff commitment. Quick, easy, and reportable comparable studies have been the rule of past research in special education evaluation. Encouragement should now be given for more long-term, well-thought-out studies examining the question of what specific variables are related to productive change in a special child's educational performance.

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